HemiHelp
For Children and Young People with Hemiplegia

Cycling

Learning to cycle is one of the milestones of childhood. Children of all ages love to ride a bike and children with hemiplegia are no different. Cycling helps develop self-confidence and can increase independence, not to mention credibility with other children. It can also have a therapeutic role, strengthening muscles and improving balance. And of course, it is great fun.

Learning to ride

Children with hemiplegia will usually take longer to learn to ride a two-wheeler, but with persistence many of them make it in the end. And if not, there are plenty of alternatives in the shape of interesting trikes, recumbents and tandems. Ask the child's therapists' advice about when and how best to start. They may even be able to lend you a special trike. Generally, of course, children prefer to learn to ride a bike than a trike, and there is no reason why they should not start with a bike, provided their hemiplegia is not too severe and not complicated by other medical conditions that might affect ability to balance, steer etc.

What to wear

For safety, they must always wear a helmet, since they are much more likely than other children to bump their heads if they fall and the slightest bump to the head can be dangerous. Long trousers, long sleeved tops and gloves help cut down on grazes, as do knee and elbow pads.

Stabilisers

Most young children start with stabilisers, but children with hemiplegia will probably need them for much longer. You may need to buy adjustable stabilisers which will grow with your child, and which you can raise slightly as the child gains confidence. For children who have particular problems with balance (or lack the confidence to try without stabilisers) a father and member of HemiHelp, David Good, has designed special adjustable stabilisers which can be moved inwards gradually so that the child hardly realises that they are managing more and more on their own (see links below).

Choosing a bike

Some parents have found that it helps to have a bike that is exactly the right size or even slightly small, so that the child can have their feet firmly on the ground whilst sitting on the saddle. It may be better to buy a series of second-hand bikes than to spend a lot of money on a new one that is too big. The crossbar on boys' bikes should not be too high – fortunately, fashionable BMX and mountain bikes have lower crossbars than traditionally framed models.

How to begin

Practice areas should be as flat and even as possible. One family had success learning to ride on a sandy beach (firm enough for the wheels to turn but soft enough to cushion falls). Some children need to learn in stages.

They may, for example, find it difficult to think about balancing and pedalling at the same time. It can be useful to remove the bike's pedals and let the child try 'scooting' along, getting a feel for balancing, before attempting pedalling. Some children may not get the hang of pedalling immediately, and need someone to push their feet round in the pedalling motion until they get used to it.

Brakes

If a child has a left hemiplegia, the back brake is on the side of the weaker hand. Any good cycle shop will swap the brakes over, as it is more important to have the back brake functioning. This may be enough when the child is learning, but once they are riding properly we strongly recommend that you have the bike adapted so that both brakes are operated by the stronger hand. If the bike has gears, the gear lever/changer should also be moved to the child's stronger side. An alternative is to buy a bike with back pedalling brakes.

Handlebars

Children with hemiplegia vary enormously in the extent to which they can grip with their weaker hand and stretch their arm, and some may need adaptations to their handlebars to help with holding. This can be as simple as sticky Dycem to improve grip, or you can fit an additional steering socket or knob (similar to those used for driving a car one-handed). Some children find an old-fashioned 'sit up and beg' type of bike, where the handlebars curve towards the body, easier to ride than a mountain bike or racer.

Pedals

Some children have trouble keeping their foot/feet on the pedals. Here are some ideas tried by members (N.B. some of them should be used only with bikes with stabilisers or trikes as on an unstabilised bike you need to be able to remove your foot from the pedal if falling sideways).

- Sticky Dycem attached to the pedal is sometimes sufficient to hold the foot in place.
- Toe clips of the type used on racing bikes can be fitted to the pedal. These can be used with unstabilised bikes since they allow the foot to slip out sideways in a fall.
- On a stabilised bike you can use additional elastic or Velcro round the heel if necessary. If the pedals have slots, try threading through Velcro strips or nylon straps with quick-release buckles, which can be fastened round the foot.
- Footplates, with a cord and pulley to keep feet horizontal, are available from specialist suppliers (see below).
- One family attached an adult shoe to the pedal, which would accommodate foot and shoe and some have used plastic moulded into a 'shoe' shape and attached to the pedal.
- Another family bolted an old fashioned metal roller skate to the pedal, minus the wheels but still with its leather straps.

Trikes, Trailers, Tandems and Side-By-Sides

Many children with hemiplegia will learn to ride a two-wheeler without too much difficulty and with the help, if necessary, of some of the adaptations suggested above. Others will find it too much of a struggle, and need a more specialised type of cycle, at least for a time. These are usually expensive, but many families have had help with buying them from local Rotary Clubs etc. or from **Whizz-Kidz** (see below).

Trikes come in all shapes and sizes (and some have loads of street cred as well!) Some have double wheels at the front, which can help children with perceptual problems to judge width more easily.

One model, designed for older teenagers, has a small engine to help in hilly areas. Some trikes have fixed wheels i.e. the pedals move with the wheels. The benefit of this is that the child does not have to get off to get out of an awkward position but can just reverse. For the child with more special needs a **side-by-side** or **tandem** trike may be the answer.

A good way to prepare a child for riding a two-wheeler is to use a '**trailer bike**'. These are attached to an adult bike by a tow-bar and the child can do as much or as little pedalling as they like whilst getting a feel for balance. It also helps teach the child road skills. Another similar idea is a device which allows you to attach the child's bike, minus front wheel, to the back of an adult bike. The extra wheel can be carried on a special bracket, so the child can start riding alone but hitch a lift when they get tired. **Tandems** are also a good way of building up a child's strength and balance, but are more expensive and less flexible than trailer attachments.

Safety and Signalling

The best way to ensure that your child is safe on a bicycle is for them to take part in a cycling training scheme. The old Cycle Proficiency Scheme has been replaced by a set of National Standards, and the main provider for training is Bikeability www.bikeability.org.uk, which has developed a three stage programme. Your child's school may already be taking part in this, otherwise contact your Local Authority. The Bikeability website states that the scheme is suitable for children with Special Needs, who will be given extra training to reach the required level if necessary.

One safety concern is the ability of the child to signal, which, depending on which way they are turning, involves either steering with their affected hand while indicating with their stronger hand, or using the affected hand to indicate. If turning right at a busy junction it may be better to dismount and walk across. If the child is taking part in a training scheme this is something to discuss with the instructor.

Useful Addresses

Cycle Supplies

Please note that you may not have to pay VAT when:

- buying certain items that are intended exclusively and specifically for the use of a disabled person, such as a wheelchair or adapted computer keyboard
- having a vehicle adapted to suit their condition, or leasing a Motability vehicle
- having building work done to adapt your home because of your child's disability

For more information go to the Revenue & Customs website: www.hmrc.gov.uk/vat/sectors/consumers/disabled.htm

Disabled Living Foundation www.dlf.org.uk Tel: 020 7289 6111, 380-384 Harrow Road, London W9 2HU
Send an s.a.e. for a list of suppliers of specialised bikes/trikes and also of accessories such as back supports, footplates, special handlebars etc.

George Longstaff Cycles www.longstaffcycles.com Tel: 01782 561 966, Albert Street, Chesterton, Newcastle, Staffs ST5 7JF. Designer, manufacturer, and retailer of custom-built cycles and tandems, including one trike adapted from a Raleigh mountain bike.

Good Designs www.disabledcycling.f2s.com Tel: 01248 713 624, 60 Gwel Eryri, Llandegfan, Menai Bridge, Gwynedd, Wales LL59 5RD. A father of a child with hemiplegia who has designed adjustable stabilisers in three sizes.

Jenx Ltd www.jenx.com Tel: 0114 285 3376, Wardsend Road, Sheffield S6 1RQ, England, UK
Designs and manufactures therapeutic products for children with special needs and is the UK distributor for Rifton products, including the Rifton tricycle.

London Recumbents www.londonrecumbents.co.uk Tel: 020 7635 9761, 60 Lugard Road, Dulwich, London SE15 2SZ. Large range of bikes, trikes and accessories for special needs bikers, including the Slipstream, the Copilot, the Cresswell U plus 1, the PF side-by-side and the Neatwork range.

Parker Products Development Ltd Tel: 01302 841 671, Laburnum Cottage, Bramwith Lane, South Bramwith, Doncaster, DN7 5SJ. Specialise in designing and manufacturing cycling products for riders with particular and special needs. A parent has highly recommended the Tribike Converter.

Quest 88 Ltd www.quest88.com Tel: 01952 463050, Aston Street, Shifnal, Shropshire TF11 8DW.
Custom-built trikes and accessories as well as a wide range of activity based therapy products. Will give help and advice over the phone.

TFH www.tfhuk.com Tel: 01299827820 Email: tfh@tfhuk.com, 5 - 7 Severnside Business Park, Severn Road, Stourport -on-Severn, Worcestershire, DY13 9HT. Wide range of equipment, including specialist bikes with low gear ratio (need little effort to pedal), and no chain or spokes.

Theraplay Ltd http://www.triaid.com Tel: 0141 876 9177 Email: theraplaysales@aol.com 32 Welbeck Road, Darnley, Industrial Estate, Glasgow, G53 7SD. Range of specialist equipment for children, including tricycles.

Tomcat Trikes www.tomcatspecialneeds.co.uk Tel: 01452 616900
13/9, the Gloucester Business Park, Hucclecote, Gloucestershire, GL3 4AA. Email: info@tomcattrikes.com Sells Tomcat Trikes that have rear steering control and two-piece frame

Unicam Mobility Tel: 01460 67926, 1, Bampton Avenue, Chard, Somerset, TA20 1DS
Provides attachments to convert non-specialised bicycles to ensure easier use by people with lower limb disability.

Velovision Special Needs Buyer's Guide www.velovision.co.uk/cgi-bin/show_comments.pl?storynum=559 Velo Vision Magazine, York Eco Business Centre, Amy Johnson Way, Clifton Moor, York, YO30 4AG
This 8-page PDF download from the Velovision website is packed with info on what to look for in bikes. The web page also has lots of useful links.

Wise Wheels www.wisewheels.co.uk Tel: 01295 770806 Email: squirejones@supanet.com Malcolm Jones, Fairleads House, Top Street, Northend, Warwickshire, CV47 2TN. Custom built bikes for children and adults with disabilities or mobility problems.

WRK Tel: 01945 880014, Ashfield House, School Road, St Johns Fen End, Wisbech, Cambs PE14 7SJ.
Range of trikes, karts and accessories. Will come and assess needs.

W.R Pashley Ltd www.pashley.co.uk Tel: 01789 292 263 Email enquiries@pashley.co.uk Masons Road, Stratford-upon-Avon, Warwickshire CV37 9NL
Well-made traditional bikes, tandems and trikes including the Pickle tricycle for children aged 4 upwards, and the Polo tricycle for older children. Masons Road, Stratford-upon-Avon, Warwickshire CV37 9NL.

Organisations

The following are just some of the organisations and sites involved in making cycling easier for people with special needs. You may be able to get more information through your local disability network.

Companion Cycles www.companioncycling.org.uk Tel: 07961 344545
Have cycles for hire in Bushy Park and 'companions' to ride with. Ideal for those who cannot ride solo. Contact Judy Cobbett. 9 Harvey Drive, Hampton, Middlesex, TW12 2FB.

CTC www.ctc.org.uk is the UK's national cyclists' organization. Go to: Go Cycling> Cycling hints and tips> All ability cycling for information and links. CTC, Parklands, Railton Rd, Guildford, Surrey GU2 9JX

Cyclemagic www.cyclemagic.org.uk Tel: 0116 262 5551
Based in Leicester, projects include special needs and disabled cycling. Unit 6, 62 Friday Street, Leicester, LE1 3BW.

Cyclops www.cyclopsnt.org Tel: 07974 720002
Cycling opportunities for all, grew out of Wheels for All above. Based in North Shields, has hand cranked and special needs bikes as well as conventional bikes. The Parks Sports Centre, off Howdon Road, North Shields, NE29 6TL.

GetKidsGoing www.getkidsgoing.com is a charity that promotes sports for disabled children and young people by providing them with mobility equipment, mostly wheelchairs but also trikes. It also supports their training, travel etc.
10 King Charles Terrace, Sovereign Close, London. E1W 3HL

London Cycling Campaign www.lcc.org.uk Tel: 020 7928 7220
Has an excellent downloadable 'All Ability Cycling for Greater London' with information on the various types of bike suitable for riders with disabilities, and a useful names and addresses list which covers the whole country, not just London.
2 Newhams Row, London, SE1 3UZ.

Reach www.reach.org.uk Email: reach@reach.org.uk Tel: 08451 306225 is a national charity providing support and advice for children with hand or arm deficiencies, and their parents. The website has a downloadable guide to cycling which is out of date in some details but generally useful.

Tandem Club www.tandem-club.org.uk Tel: 01908 282485
Organises rides, pairing sighted and visually impaired riders. Also useful if you are anxious about someone with epilepsy cycling alone.

Wheels for All http://cpnw.newcomweb.demon.com/WFA-page1.htm Tel: 0161 794 1926
Aims to get people with disabilities cycling. They have 5 sites in the North West where cycles can be hired.

Whizz Kids www.whizz-kidz.org.uk a charity which provides mobility equipment, including trikes.

Cycling as a disabled sport

British Cycling http://new.britishcycling.org.uk/disability Tel: 0161 274 2021 Email: disability@britishcycling.org.uk

HemiHelp has a range of information sheets for both families where there is a child with hemiplegia and adults with the condition, as well as a Useful Names and Addresses List to help you contact other organisations.

***Hemiplegia** is a neurological condition that weakens one side of the body and affects one child in a thousand. It is sometimes described as a form of cerebral palsy and the effects are similar to those of a stroke. **HemiHelp** is a membership organisation offering information and support to children and adults affected by hemiplegia and their families.*

HemiHelp is happy for you to make photocopies of any part of this document.

Helpline: 0845 123 2372 (Mon-Fri 10am-1pm)
Admin: 0845 120 3713 • Fax: 0845 120 3723
Email: support@hemihelp.org.uk • Web: www.hemihelp.org.uk

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